

## NOTES FROM MEADOWBROOK FARM

By William Pitt

Drain the hog yards.  
Raise some strawberries.  
Be gentle with all animals.  
Plan on having a garden and determine to take care of it.  
The duck averages ten dozen eggs in about seven months laying.  
Watch the feet of the colt. As they grow the horse will be valuable or not.

Feed plenty of charcoal, as it is one of the best things for keeping the poultry healthy.  
In a small garden cucumbers and muskmelons may be trained on a wire trellis or on pea brush to save space.  
Cooking food for hogs and cattle was long ago proved to be not only no improvement but often an actual loss.

Quiet, gentle, handling of the ewes during the winter makes it much easier work to care for the flock during the lambing period.  
One of the professors of the Carnegie school at Pittsburgh recently found an edible mushroom weighing a little over 30 pounds.

Irregularity in care and feeding is felt more by sheep than by any other farm animal. A successful sheep man says that he "feeds by the clock."

With sod-mulch systems, the grass in the orchard must be moved often and allowed to lay where it falls. Its removal decreases the fertility of the soil.

Celery banked with earth late in the fall seems more palatable than where boards are used. Do not bank when the foliage is at all moist, as this will aid decay.

When to apply a fertilizer depends on when it is needed by the plant, the kind of fertilizer, the soil, the crop, and the season of normal rainfall of the district.

A poorly fed tree cannot do its best any more than a poorly fed man or animal. It is surprising what a difference a wheelbarrowful of manure around a tree will make.

A good method of watering ferns is to set the pot in a pan or tub of water long enough to soak the roots and soil thoroughly. Do not water again until the plant needs it.

There are several ways to shorten the life and usefulness of farm implements. The quickest way to spoil them is the one that is most common; leaving them out in the weather.

In planting fruit trees for family use, select the varieties that appeal to the palate of the home folks, but for the markets select those varieties that keep best and are in greatest demand.

Green ground bones are rich in albumen, phosphate of lime and phosphoric acid, which go to make eggs and shells. It will pay any poultryman to buy a bonemill to grind bones for his fowls.

Even if you have not gotten round to have a little family orchard, you can't afford to go longer without a bed of strawberries, and probably some raspberries, gooseberries, currants and other small fruits.

According to the federal forest service the average annual loss from forest fires is about 70 lives and \$25,000,000. If the cost of crops, buildings, stock and young trees were included the loss would be many millions more.

Bee keepers should take particular pains to inform the fruit growers that spraying the fruit trees when they are in full bloom not only poisons many of the bees, but it is not the time to get the codling moth. Better still, get in touch with the horticultural inspectors, and ask them to give the proper information about the best time to spray.

In trimming young trees from the nursery do not leave any branches that are more than eight inches long. The practice of cutting back to within two or three feet on one-year-old trees is growing, and usually gives very satisfactory results.

By all means put out a strawberry bed next spring. They are as sure to thrive and bear abundantly if properly set out and cared for as a crop of potatoes. The Senator Dunlap is the most popular sort and leaves little to be desired in a first class strawberry.

Don't burn the straw.  
Spread the manure daily.  
Keep the good breeding ewes.  
"One apple a day will help to keep the doctor away."  
Ewes that are successful breeders should be kept as long as possible.  
Guinea fowls are the most persistent bug eaters of all the poultry tribe.

A good, reliable equipment is absolutely necessary for profitable poultry raising.

The old-fashioned, well-kept, well-selected garden is not now as common as it should be.

Mate up the teams intended for work in the spring at least a few days before they are needed.

A ventilated corncrib built of perforated concrete blocks adorns the farm of its Illinois designer.

The coldest weather does not kill the insects. Therefore spraying is the safest method of killing them.

The incubator is not changeable. After it is once started it will set persistently until the end of the hatch.

Give the poultry access to charcoal and also a chance at coal screenings. They relish and make good use of them.

Never plant young trees among old and diseased ones, because the worms and insects are almost certain to destroy them.

It is estimated that every year 50,000,000 tons of potash are carried into the oceans by the streams which empty into them.

Get all fruit trees planted at the very earliest chance, so that they may make all growth possible the first year after setting out.

Much land that refuses to grow red clover may be put by cowpeas into a state of fertility that will insure a perfect stand of clover.

Horses should never be made to eat moldy hay, as nothing is worse in leading to worrying, whistling and other derangements of the wind.

This is a good time to buy that pure bred male, or that breeding pen of fine fowls. Breeders will sell a little cheaper now than they will a little later.

In the dairy ration or in feeding young and growing stock and breeding stock, oats take practically the same place, pound for pound, as bran or shorts.

Vegetables should be carefully prepared for market. Supply what your market can use and put it up fresh and in the most attractive package possible.

There is a great loss of time and money in attending auctions to buy worn-out tools and machinery that is out of date. The first wear is the best on all farm tools.

Trees must not have wet feet. The level of the standing water in the soil must be at least three feet below the surface, and it is better for the trees if it is twice this distance.

A general rule for feeding dairy cows: Feed one pound of grain a day for each pound of butter fat produced per week, or one pound of grain per day for each three pounds of milk.

If you cultivated your orchard late you may have some dead trees on your hands next spring from freezing. Cultivation should be stopped in time to allow the sap to retreat into the roots.

Plan to be ready for the trees as soon as they come from the nursery. By ordering early and being ready when the trees arrive you will be likely to get good trees and get them started properly.

If the room is very warm, keep a dish of water standing among the flowers, or on the stove. If the house is heated with a furnace the water pan underneath should always be kept full. The average house plant likes best a temperature of 60 to 65 degrees, and a room without heat, opening off from a warm room, is an ideal place for them.

If the farmer of the present day does not succeed it will not be because he is not being offered every possible assistance. The United States department of agriculture is conducting extensive investigations to solve his problems, while most of the states are co-operating along the same lines through state agricultural experiment stations.

It is a great benefit to the farmer to have his community recognized as the place where stock of certain type and quality can be secured in large numbers. This is the secret of many of the great breeding centers of this country.

The world's record-breaking broom corn price of \$227.50 per ton was paid to John Robertson, near Texhoma, Okla. One reason for the high prices is that broom corn raisers formed a combination and held their supplies for high prices.

## For Handy Boys and Girls to Make and Do

(Copyright by A. Neely Hall)

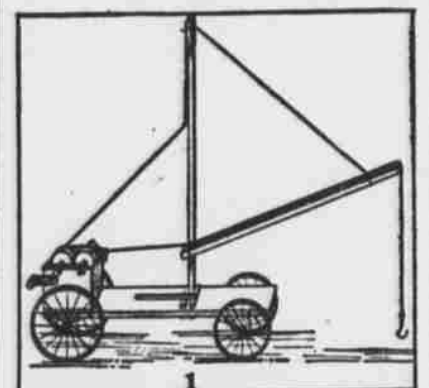
### TOY TRAVELING CRANE.

By A. NEELY HALL.

This is an easily carried out idea that will be productive of a great deal of fun. The crane may be used to hoist earth, and dump it to one side out of the way, in building a miniature Panama canal, or for excavating for a toy well, or any other play engineering feat you may think of.

The toy crane may be built upon your express wagon, or a home-made wagon of the form shown in Fig. 1.

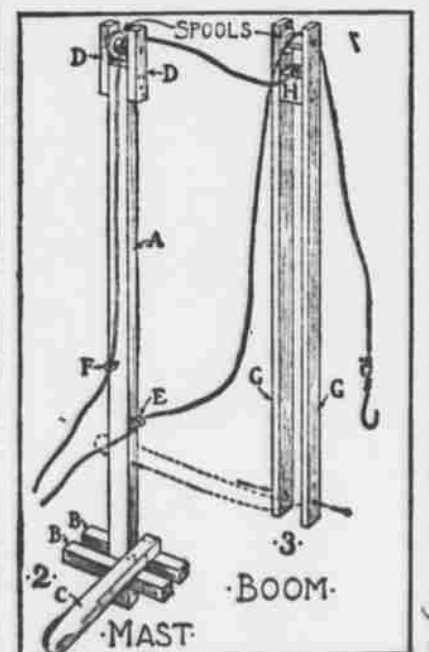
A clothes-pole or short rug-pole may be used for the mast (A, Fig. 2). The lower end should stick through a hole cut in the wagon-bed, and the two crosspieces B should be nailed to the sides several inches above the bottom end so they will rest upon the wagon-bed. When the mast has been set in place, nail a pair of crosspieces similar to pair B to its end, beneath the wagon-bed, to brace it. The stick B, nailed to the upper crosspieces, is the lever by which the mast is turned. The mast-top pulley is a thread spool, mounted on a long spike driven through the blocks D, and blocks D are securely nailed to the end of the mast.



The swinging boom (Fig. 3) is made of the two side strips G, separated 6 inches from the outer end by the block H, and its spool pulley is mounted in the same way as the mast pulley spool. Fasten the mast end of the boom with nails driven through the sides of strips G into the mast.

The wrapping-twine hoisting cable has a hook bent out of heavy wire attached to its end, and the cable runs over the boom pulley, then through a screw-eye in the mast at E, and from there over to a windlass, while the cable which raises the boom is attached to a nail in block H, runs up and over the mast-top pulley, down through the screw-eye at F, and over to a second windlass.

Figure 4 shows how the windlasses are mounted upon the edges of a box, and Fig 5 shows how the drums are



made. The shaft A is a broom-handle, the crank strip B has a hole bored through it for the shaft to fit in, and the spool C is fastened to the end for a handle. Drum D is a baking-powder can, and it is nailed to the wooden end block F, and the can cover E is nailed to the end block G. Holes must be cut through the end blocks, and the cover and bottom of the can, so all will slip onto the axle, and, after the cover has been fitted on to the can, the end blocks must be secured to the shaft with nails.

Notch the top edges of the box, to receive the drum shafts, and nail strips of wood over them, as shown.

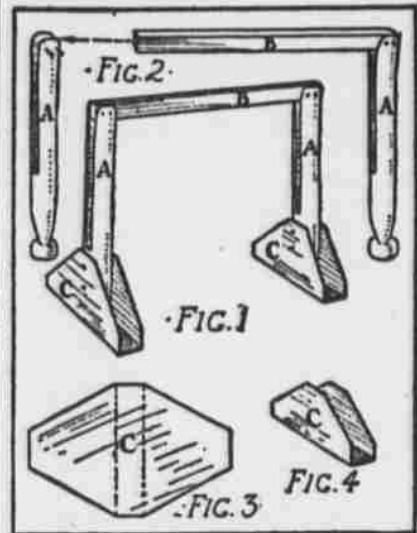


to hold them in place; also drive nails through the ends of the shafts, to prevent them from slipping lengthwise. Nail the windlass box to the wagon.

### A HOME-MADE INDOOR CROQUET SET.

By DOROTHY PERKINS.

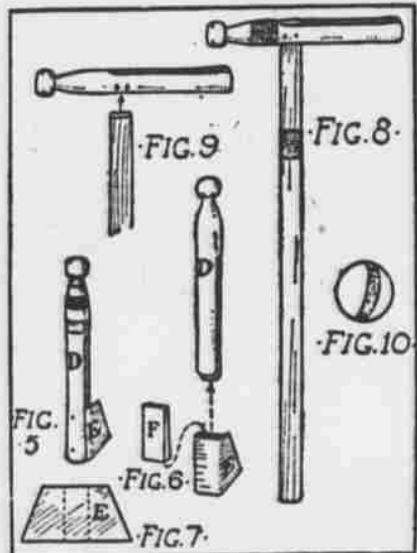
The illustrations show how a splendid croquet set for indoor use may be constructed inexpensively. Clothespins, a few sticks, some small tacks,



and 5-cent rubber balls are all that is required for making the outfit.

A completed arch is shown in Fig. 1, and Figs. 2, 3 and 4 show how to make it. Two clothespins (A) have a clothespin (B) fastened in their open ends, and cardboard shoes attached to their other ends. Cut crosspieces C about 5 inches long, and fasten each end with small tacks driven through the clothespin ends into them. Cut the cardboard shoes by the pattern of Fig. 3, and fold each in two places as indicated by dotted lines. The folded shoes will have the form shown in Fig. 4. Tack the shoes to the sides of the clothespins. Make nine arches.

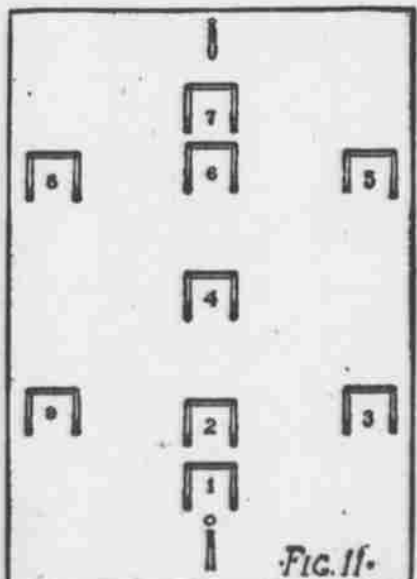
Two end stakes are necessary, and Figs. 5, 6 and 7 show how each is



made with a clothespin (D), a cardboard shoe (E), and a small wooden wedge (F). Cut wedge F to fit the open end of the clothespin, and after cutting the cardboard shoe E by the pattern of Fig. 7, fold it as shown in Fig. 6, tack to the edges of wedge F, and slip into the open end of the clothespin as shown in Fig. 5. Then drive a couple of tacks through the clothespin into wedge F.

Figures 8 and 9 show how the croquet mallets are made with a clothespin head and a stick handle.

The way to arrange the croquet arches upon the floor is shown in the diagram of Fig. 11. Following is the proper spacing for the arches when the end stakes are placed ten feet apart. Stand arches No. 1 and No. 7



(Fig. 11) 13 inches from the stakes, stand arches No. 2 and No. 6 12 inches away from, and in line with, arches No. 1 and No. 7, and stand arch No. 4 exactly half way between arches No. 2 and No. 6. Stand arches No. 3 and No. 9 24 inches to the sides of arch No. 2 and three inches nearer the center, and stand arches No. 5 and No. 8, 24 inches to the side of arch No. 6 and 3 inches nearer the center.

The rules for playing indoor croquet are the same as those which govern lawn croquet. Start the ball at arch No. 1, drive it through arches Nos. 1, 2, 3, 4, 5, 6 and 7, in the order named, and make it strike the end stake. Then, returning, drive the ball successively through arches Nos. 7, 6, 5, 4, 3, 2 and 1, and strike the stake. The first player to cover the course wins the game.

## HOW TO FIGHT AND DESTROY THE FARM'S MOST SERIOUS INSECT PEST, CHINCH BUGS

They Winter In Bunch Grass and Blue Stem Growing In Meadows—By Burning These Growths During Autumn Past May Be Practically Destroyed—Study of Egg Parasite Shows Artificial Spreading of Disease to Be Almost Useless.

[By James W. McColloch, Assistant Entomologist, K. S. A. C.]

DURING the last five years the department of entomology of the Kansas State Agricultural College has been engaged in carrying on extensive experiments on the chinch bug. Many new points have been discovered in its life history and several new measures for controlling it have been developed. This information has just been published in a bulletin issued by the Kansas Experiment station, which is now available for free distribution. In the past few years the farmers of Kansas have suffered an enormous loss from this insect and it is with the idea of helping the farmers reduce this loss that this bulletin is published at this time.

The chinch bug is the most serious pest with which the farmers of Kansas have to contend. It does not confine its injury to one crop, but will attack most of the cereal crops grown on the average farm. The history of the chinch bug as a pest in Kansas begins when the first settlers broke the prairie and planted sod corn. Since then the history has been one of ups and downs due to favorable and unfavorable conditions of climate. Whenever the season has been dry and wheat and corn have been grown together, the chinch bug has been a pest.

There are two broods of chinch bugs annually in Kansas and in order to give a connected idea the life history will be taken up at this time and traced forward until this period next year. At present the adult bugs are hibernating in the clump forming grasses, such as bunch grass and blue stem. About the first of April these adults leave the grass and migrate to the nearest grain field where they deposit their eggs either around the roots of the plants or between the leaf sheaths. These eggs hatch about the middle of May and the young bugs feed in the small grain fields until harvest when they migrate to the corn fields. Here they reach maturity and begin depositing eggs about the middle of July and thus the second brood of young bugs appear in the corn fields about the last of July. These bugs feed in the corn field and the second brood begins to reach maturity about the last of August, although the majority do not reach maturity until the middle of September. These adults migrate to the grass lands when the food gives out or cold weather sets in, and they may be found there at any time during the winter. It has been found that ninety-five per cent of the bugs winter in bunch grass and blue stem growing in meadows, pastures and waste areas and that by burning these grasses in the fall the bugs are practically all destroyed.

Considerable work has been done on the chinch bug fungus disease, both in the Kansas Experiment station and in other states. The general summary from all of this work shows that the fungus disease is everywhere present and that the artificial distribution of it is of no avail.

It has been found that there are two times in the year when the chinch bug can be successfully combated.

The first comes during the summer, when the bugs migrate from wheat to corn, and the second comes just after the bugs have become firmly settled in their winter quarters. The problem of summer destruction involves the necessity of getting the bugs to pass from the small grain while yet immature and the construction and maintenance of efficient dry-weather or wet-weather barriers. Full directions are given for the construction and operation of the different types of barriers. The winter destruction is by far the cheapest and most satisfactory method, and if properly carried out should render summer destruction unnecessary. Winter destruction involves the necessity of burning in November and December all clump-forming grasses, such as bunch grass and blue stem, which grow along roadsides and ravines, and in pastures, meadows, and waste lands.

Of all the staple crop insects, the chinch bug has been the only one for which there was no insect parasite. It has long been thought that a parasite of the egg might exist but no definite proof of such a phenomenon was to be had. In April, 1913, chinch bug eggs were collected in the field that bore signs of parasitism and on being isolated three emerged from them on May 19 three parasites.

With these three parasites as a basis the life history was carried through the summer. The length of the life cycle was found to vary with the temperature. During May and June, the average length of the life cycle was from twelve to fourteen days; during July ten days, during August from thirteen to fifteen days, and during September from twenty to twenty-seven days.

The exact number of generations has not been worked out, but there are about nine or ten. From May 19 to July 5 there were obtained four generations of adults. At this time the chinch bug eggs became very scarce, as it was the interval between broods and thus it was not possible to continue the life history work again until July 23. From then until October four more generations were obtained. The interval during which the life history work was forced to be dropped was about two weeks, or almost the length of the life cycle, so that it would appear that there might easily be nine generations. The first parasites were at work in the field about April 27 and the last parasite observed in the field this fall was on October 14.

The adult parasite is a very minute insect measuring about .03 of an inch in length. Its life is very short lasting only a few days and this short existence is occupied in constant activity during the day in hunting for mates and depositing eggs. Feeding, if any, requires a very short time and the main part of the insect's life is directed toward reproduction. So far it has not been possible to determine with any degree of accuracy the number of eggs a female can deposit. In the experimental work each female parasitized an average of five or six chinch bug eggs. The largest number of eggs parasitized by a female was thirteen. Twenty-nine females that had not been allowed to oviposit were dissected and the number of eggs in the ovaries counted. The smallest number of eggs found was thirteen and the largest, twenty-nine, while the average was twenty-three. The number of females greatly exceeds the number of males. Of fifty-one parasites collected in the field forty-seven were females and of the seven hundred eighty-six parasites bred out in the laboratory, five hundred twelve were females.

In considering the efficiency of this parasite, it must be remembered that the normal egg laying period of a chinch bug is about two months and that the life cycle of the parasite is only about two weeks. Thus it is seen that the eggs of a single chinch bug are exposed to three generations of parasites and instead of sixteen per cent being parasitized, which is the average per cent of parasitism for one generation of parasites, about fifty per cent are destroyed by the three generations. Observations in the field and experiments in the laboratory tend to bear this out.

## AVOID DAMAGE FROM HOG CHOLERA SERUM

[By Dr. F. S. Schoenleber, State Veterinarian.]

It is conceded that permanent immunity against hog cholera can be had only by the use of serum and virus. It is also conceded by all authorities that serum—alone will not injure a healthy hog.

Virus should not be used upon pigs weighing less than fifty pounds. It should not be used on pregnant sows. It should not be used upon sows suckling pigs. It should not be used if the animals are suffering from any disease, or if they are infested with parasites, or if the surroundings are not sanitary.

In the above instances, serum alone should be used until such time as the conditions are right. It might also be necessary to use a second application of the serum before giving the simultaneous method.

While it is possible in many of the above instances to use serum and virus successfully without loss, our experience has been such that at times great losses are incurred.

If a pregnant sow is given virus she may abort or the pigs may not develop normally. If she is suckling pigs, virus nearly always increases the temperature, gives them a fever which may cause stopping of the flow of milk and the pigs either starve

to death or may even contract cholera.

Anti-hog cholera is used as a preventive only, and it will prevent no other disease excepting hog cholera. If there is cholera in the herd, virus may increase the trouble, and in this instance, serum, alone should be used, and when the animals are in a normal condition again the simultaneous method may be applied. If the temperature of the animal is high, no matter from what cause, the virus increases the fever which may kill the animal.

Where hogs are infested with parasites, the vitality of the hog is naturally reduced and the virus may kill the animal which is also true where the surroundings are insanitary.

If a pig weighing less than fifty pounds is vaccinated with the simultaneous method, the immunity may not last.

It is always considered advisable to use the serum-alone in all doubtful conditions, and if permanent immunity is desired, the virus and serum given after the conditions are corrected.

The farmer does some of his work so cheerfully and so well that it looks like play to the man passing by.